

T E R R A

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NATURAL HISTORY MUSEUM OF
LOS ANGELES COUNTY



CALENDAR OF EVENTS INSIDE!

Join us for:

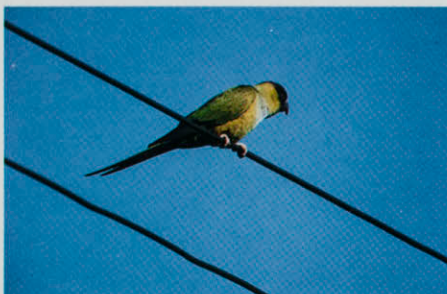
- A sleepover with the museum's African cats, *page 12*
- A cruise on the open sea, *page 11*
- A walk in historic Los Angeles, *page 11*

THE GREEN REVOLUTION

Parrots in Southern California

FREE-LIVING FLOCKS OF PARROTS, present in southern California for several decades, are increasingly catching the attention of the human residents as their populations (and ours) grow. A brief summary of the status of California's feral parrots was published by J. W. Hardy in 1973, and I treated southern California aspects of the phenomenon in a *TERRA* article over 10 years ago ("Southern California's Exotic Birds," May/June 1986). Since then, our parrot populations have continued to grow.

Until recently there had been no thorough effort to document how many feral parrots there are here, where they live, or even exactly which species are involved. Yet such information is needed on many fronts. Birdwatchers are confused because current standard North American field guides treat few of our parrot species at all, and none adequately. Ecologists and conservation biologists are interested in how parrots adapt to the urban and suburban landscapes and how they may interact with native organisms; furthermore, as populations of many parrot species dwindle in their native ranges, naturalized groups such as those in southern California may provide a genetic pool for reintroductions (although such programs are fraught with difficulties). Agricultural specialists



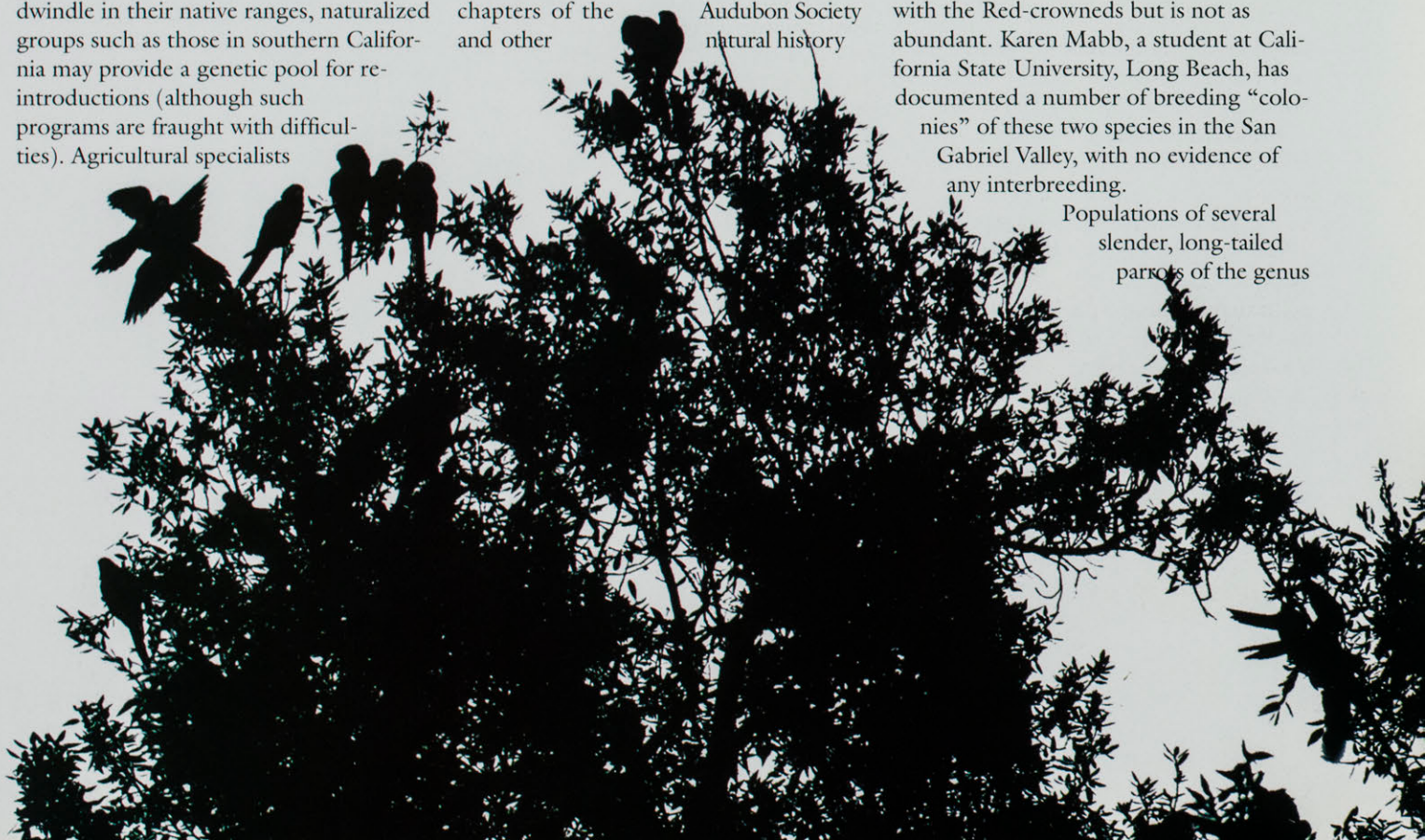
are concerned about parrots and other exotic bird species because of the possibility that they may damage crops. And evolutionary biologists can gain insight into relationships among species by studying the "melting pot" that results when normally allopatric (geographically nonoverlapping) parrot populations are thrown together into artificial sympatry (overlap) through introduction as exotics.

Since 1994, the Ornithology Program at the Natural History Museum has built a database on parrot distribution and abundance in southern California from information submitted by birders, museum members, and other interested people. The Parrot Project was publicized through chapters of the Audubon Society and other natural history

organizations: from the more than 1,300 sightings reported to date, we have been able to paint a rather detailed picture of the identity, status, and distribution of our parrots.

Parrots are often difficult to identify in the field, and the work of our volunteer record gatherers has not been made easier by the fact that almost all of our feral parrots are predominantly green in body color. The most abundant species in the region is the Red-crowned Parrot (*Amazona viridigenalis*), a stocky, large-headed native of northeastern Mexico. In the San Gabriel Valley alone, there are more than 500 of these large parrots (to 33 centimeters, or 13 inches), and pre-roosting flocks of hundreds of Red-crowns are a well-known sight to the residents of south Arcadia and Temple City. Sizable flocks reside in the northern San Fernando Valley and in urban Orange County; the Malibu coastline also hosts the species but in smaller numbers. The closely related and very similar Lilac-crowned Parrot (*A. finschi*), whose natural range in western Mexico is separate from that of the Red-crowned, occurs in southern California with the Red-crowns but is not as abundant. Karen Mabb, a student at California State University, Long Beach, has documented a number of breeding "colonies" of these two species in the San Gabriel Valley, with no evidence of any interbreeding.

Populations of several slender, long-tailed parrots of the genus



Aratinga (popularly called “conures”) are found in our region. Chief among these species is the raucous Mitred Parakeet (*A. mitrata*), a native of eastern Peru, Bolivia, and northwestern Argentina. Mitreds flourish in coastal communities from Malibu to Huntington Beach, as well as in the Los Angeles Basin and the San Gabriel Valley. They are joined in their feeding and roosting by a few Red-masked Parakeets (*A. erythrogenys*), slightly smaller birds that are native to western Ecuador and Peru. No interbreeding between these closely related but normally allopatric species has been noted in southern California. Two other related species with populations estab-



lished locally are the Blue-crowned Parakeet (*A. acuticaudata*) and the Black-hooded Parakeet (*Nandayus nenday*).

Another Neotropical species now also at home in the Los Angeles Basin is the Yellow-chevrons Parakeet (*Brotogeris chiriri*), a small green bird (to 22 centimeters, or 7 inches) with bright yellow flashes in the wings. Native to southern Brazil, eastern Bolivia, and northern Argentina, this parakeet has replaced its close relative, the Canary-winged Parakeet (*B. versicolorus*), which

had been established in the San



Pedro area in the 1970s. The only southern California parrot that does not originate in the Neotropics is the Rose-ringed Parakeet (*Psittacula krameri*); birds that trace back to Indian subcontinent populations of this species live in small numbers along our coast and in the San Gabriel Valley.

People are very curious about our feral parrots, and these are the questions that I am most often asked:

How did these birds get here? None arrived on their own. Our populations started from innumerable releases—nearly always unintentional—of captive, imported birds. Most of the parrots now residing here represent species that were imported for commercial purposes in staggering numbers in the 1960s and 1970s; only recently has legislation been enacted to stop this worrisome drain on natural parrot populations of South and Central America and elsewhere. It will be interesting to chart the dynamics of southern California's wild parrot groups now that legal importations have largely ceased.

Do they reproduce in the wild? Regular breeding has been documented for the seven

ABOVE

Yellow-chevrons Parakeet (*Brotogeris chiriri*), Exposition Park, Los Angeles.

LEFT

Red-masked Parakeet (*Aratinga erythrogenys*), Malibu.

BELOW

Mitred Parakeets (*Aratinga mitrata*), Temple City.

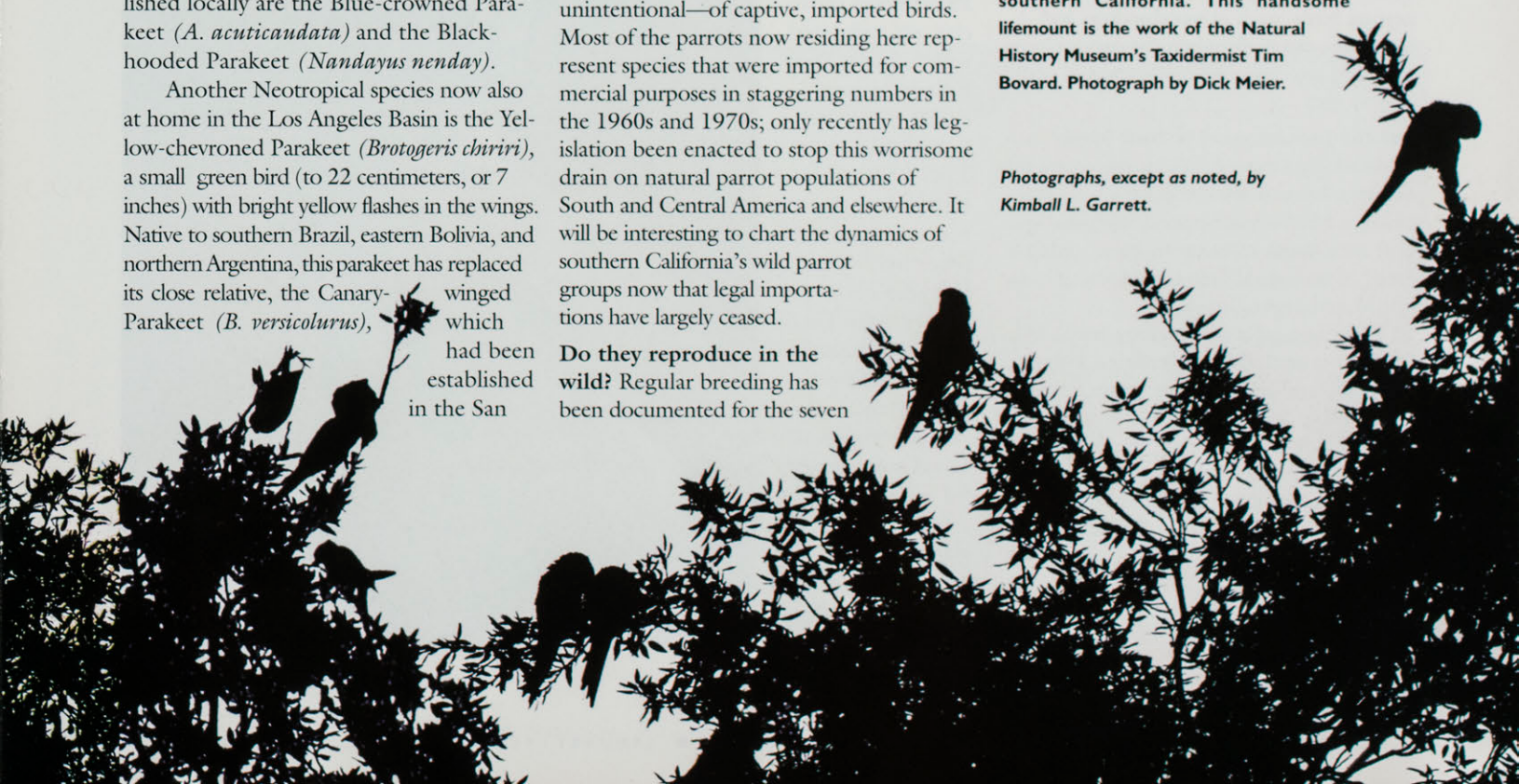
OPPOSITE, TOP

Black-hooded Parakeet (*Nandayus nenday*), Huntington Beach. Photograph by James R. Gallagher / Sea and Sage Audubon Society.

COVER:

Rose-ringed Parakeet (*Psittacula krameri*), one of nine parrot species now established in the wild in southern California. This handsome lifemount is the work of the Natural History Museum's Taxidermist Tim Bovard. Photograph by Dick Meier.

Photographs, except as noted, by Kimball L. Garrett.



HISTORY AND THE HAYNES FOUNDATION

Population estimates for parrot species established in southern California

Species	Number of Birds in Southern California
Red-crowned Parrot, <i>Amazona viridigenalis</i>	750-1,000
Mitred Parakeet, <i>Aratinga mitrata</i>	400-500
Yellow-chevroned Parakeet, <i>Brotogeris chiriri</i>	250-300
Lilac-crowned Parrot, <i>Amazona finschi</i>	150-175
Rose-ringed Parakeet, <i>Psittacula krameri</i>	100-125
Black-hooded Parakeet, <i>Nandayus nenday</i>	75-100
Yellow-headed Parrot, <i>Amazona oratrix</i>	90-100
Blue-crowned Parakeet, <i>Aratinga acuticaudata</i>	40-50
Red-masked Parakeet, <i>Aratinga erythrogenys</i>	35-50

most numerous species and is probably occurring in the others as well. Natural tree cavities, or holes hollowed into palm trunks or skirts of palm fronds, are the preferred nest sites, although most species will also take advantage of artificial niches, such as spaces under roof tiles or openings in drain pipes.

Do they affect native species? So far, our parrots are almost entirely restricted to urban and suburban areas, where native habitats have usually been replaced by exotic tree and shrub species. Some species might occasionally compete with native cavity-nesting birds, such as woodpeckers and bluebirds, especially when the parrots have ventured into our wilderness areas in search of nest sites.

Are the parrots good or bad? Museum ornithologists have difficulty answering this question because the answer goes beyond biology. Most conservation biologists oppose introductions of exotic biota, citing a litany of ecological destruction wrought by introduced organisms.

The landscapes of urban southern California have been irreparably altered with exotic plants and animals; there seems little likelihood of our returning to a pristine past. Parrots are now part of this ever-changing landscape. Our studies aim to provide a foundation for assessing the potential impacts of increasing parrot populations rather than to pass judgment on their desirability.

KIMBALL L. GARRETT
Ornithology Collections Manager

THE STUDY OF PHILANTHROPY is not normally a subject of concern in a natural history museum (except, perhaps, in the development office). But one particular philanthropic foundation has been the focus of our research for an unusual reason. In the midst of the Natural History Museum's financial troubles earlier this decade, the Los Angeles-based Haynes Foundation awarded a grant to fully compensate our museum for me to research and write a critical history of the 70-year-old foundation. The 18-month project resulted in a chronicle of this social science-oriented institution set within the broader contexts of U.S. philanthropy and the development of southern California in the twentieth century; the work has in turn informed the museum's exhibitions and other public programs in local history.

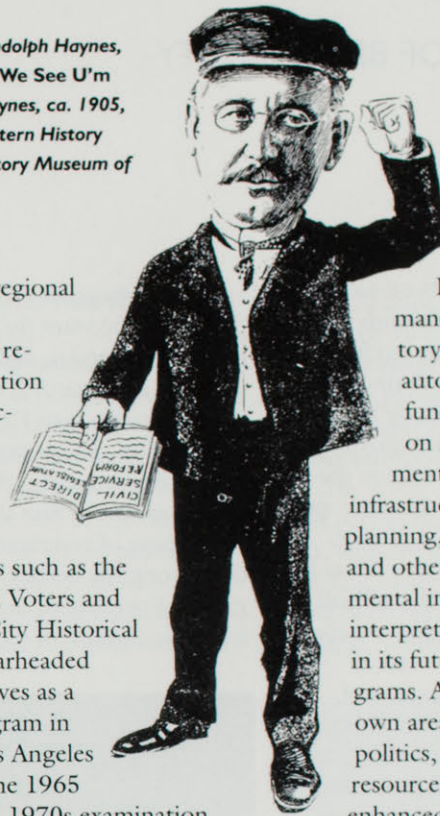
The Haynes Foundation was the creation of John Randolph Haynes (1853-1937), a Philadelphia physician who migrated with his wife, Dora Fellows Haynes (1859-1934), to Los Angeles in 1887. Over the next half century, Dr. Haynes became the preeminent social and political reformer in the City of Angels, a major figure in California politics, and a supporter of many national movements for specific and general reforms. As a leading progressive activist, he was in the forefront of campaigns for the

initiative, referendum, and recall (he was called the "father of direct legislation" in California); he also championed many other causes, including public ownership of utilities (he served as a commissioner for the Department of Water and Power for 16 years), civil service, women's suffrage, the defense of the First Amendment to the Constitution and the rights of Native Americans, and the improvement of occupational and living conditions of American workers. From the early 1900s until his death, he served on numerous city boards, county commissions, and state agencies such as the University of California Board of Regents.

Dr. Haynes had financed his progressive activities with a small fortune he earned through his medical practice and through investment in Los Angeles real estate and petroleum. To ensure that this



Caricature of John Randolph Haynes, the reformer, from *As We See U'm* (1904). Portrait of Haynes, ca. 1905, Seaver Center for Western History Research, Natural History Museum of Los Angeles County.



wealth would continue to support his and Dora Haynes's interests after their deaths, the two created the Haynes Foundation in 1926. The early trustees—mostly activists who worked with the Hayneses in various progressive crusades—included California political analyst Franklin Hichborn, U.S. Commissioner of Indian Affairs John Collier, and Occidental College President Remsen D. Bird.

The Haynes Foundation initially supported its own and other organizations' programs promoting regional planning in southern California. In 1942, an in-house research group was established to conduct studies in economics, sociology, public administration, and natural resource planning. Over the next 10 years, this "think tank" produced a mass of publications documenting the region's growth, institutions, and population. Since then the foundation's program has consisted of scholarships and fellowships to train future social scientists at local liberal arts colleges, as well as support of research on policy issues relating to local institutions. In recent years, the foundation has placed emphasis on "solutions research," with applied (rather than theoretical) methodolo-

gies for analyzing regional problems.

In addition to research, the foundation has also funded lectureships, historic materials cataloging, conferences, and projects of local organizations such as the League of Women Voters and the Los Angeles City Historical Society. It has spearheaded such major initiatives as a jobs-creation program in South-Central Los Angeles established after the 1965 Watts Rebellion, a 1970s examination of Los Angeles County government, and a major effort to address some of the underlying social and economic conditions that fueled the 1992 civil disturbances in Los Angeles.

The study of the Haynes Foundation has affected our museum's programs in several ways. In addition to providing general contextual knowledge, the foundation's publications provided a wealth of information for creating the

Petersen Museum's permanent exhibition on the history of Los Angeles and the automobile. Recent studies funded by the foundation—on natural resource management, immigration, infrastructure and transportation planning, environmental quality, and other issues—will be instrumental in shaping the museum's interpretations of regional history in its future exhibitions and programs. And my knowledge in my own areas of specialty—American politics, local history, and cultural resource identification—has been enhanced as a result of this project.

DR. TOM SITTON
Curator of History

Dr. Sitton's book John Randolph Haynes: California Progressive, published in 1992 by Stanford University Press, has received a Donald H. Phlueger Local History Award from the Historical Society of Southern California; he is now completing work on a history of the Haynes Foundation.

THE MILLIONAIRE SOCIALIST

The anomaly of a wealthy reformer's working to overhaul the system that created his wealth was quite a philosophical problem for Haynes and fellow "millionaire socialists." Yet the physician did not mince words in expressing his belief about the system: "Both the accumulation of individual wealth and the system of competition that today govern the world, inciting labor troubles and international wars, are against the best interests and the destiny of the human race." He acted on this belief by means of the wealth he accumulated within the system he hoped to alter. Conservatives termed this hypocrisy. Even a fellow "mil-

lionaire socialist" confided to another rich reformer: "I am wholly unable to understand the workings of men like Dr. Haynes, [H. Gaylord] Wilshire and a great many such, who are intensely interested in getting the system changed that will cut off the rich and lift up the poor and yet go on and live high personally and accumulate all the money they can, only giving some to the cause. Should they not right now live according to their theory, what ever it be?"

Hesitant to turn over all of his fortune to the [Socialist] party or the poor, Haynes preferred to spend some of it to advance his "theory" his own way. He re-

tained his wealth and acquisitions in order to remain a part of the economic elite he wished to influence toward socialism. It was not until later in life that he searched for ways to dispose of the remainder of his wealth to aid this cause. In the meantime, he defended himself from charges of hypocrisy. As he later told an audience, he could manage his fortune more wisely by using it "to alleviate some of the results of the evil system" rather than giving it all away for the temporary care of the poor.

Tom Sitton, in John Randolph Haynes: California Progressive (Stanford University, 1992)

THE TRUE FACE OF BIODIVERSITY

THE BIODIVERSITY OR RICHNESS of life on our planet is an often talked about but little understood topic. How many distinct types of organisms are there? Nobody knows for sure or can even make a guess that might be accurate to within a few million species. But there are certainly far more species than we have recognized to date.

One fact that is clear is that life as a whole is not dominated by the animals that we normally think of when we consider preserving nature. The variety present among mammals, birds, and plants pales to insignificance in comparison to the enormous diversity of the insects. In 1988, when the biologist E.O. Wilson compiled a list of the described species of organisms, he found that insects account for 54 percent of the total. Bear in mind, however, that Wilson's figures are for formally recognized species: entomologists estimate that the 750,000 species of insects already known to science represent less than 10 percent of the actual number in existence. If we take one of the lower approximations of the total and assume that there are 5 million insects in all, they then make up 88 percent of the world's species of organisms. Using these numbers, the supremacy of the insects is quite absolute. One could say that earth is a planet inhabited by insects, with a few other minor life forms—plants, mammals, snails, worms, and so forth—thrown in.

Within the insects, the vast majority of species are in five large "megadiversity" groups: the Hemiptera, or true bugs; the Lepidoptera—the butterflies and moths; the Diptera, or true flies; the Hymenoptera—the ants, bees, and wasps;

and the Coleoptera—the beetles. These five groups account for over 90 percent of all insect species, and—under the conservative estimate of 5 million insect species—for more than 80 percent of all living things. The variety present in the groups is astounding: there are more known species of flies than there are of molluscs or of vertebrates, and more species among the beetles than in any other group of organisms, including plants. Even the smallest of the five most diverse

insect categories, the true bugs, contains more species than the fish, reptiles and amphibians, birds, mammals, and their primitive relatives combined.

The trait probably responsible for our lack of appreciation of the dominance of insects is their size. Size is a key factor in how diversity in life is organized: most organisms are relatively small. Based on data published by ecologist Robert May, we can calculate that the average animal is 7 millimeters ($\frac{1}{3}$ inch)



BUTTERFLY / PETER J. BRYANT



WEEVIL / BRIAN V. BROWN

The megadiversity groups. More than 90 percent of all insects species belong in one of these five categories, clockwise from upper right: the Hymenoptera—the ants, bees, and wasps; the Hemiptera—the true bugs; the Diptera—the true flies; the Coleoptera—the beetles; and the Lepidoptera—the butterflies and moths.



ANTS / NANCY GREG

long—slightly shorter than the word “length” in this text.

Small size in individuals is directly linked to large size in populations. Preliminary research on this relationship indicates that an animal that is one-tenth the size of another generally exists in populations that are 500 to 2,000 times as abundant. Thus we would probably find 500 to 2,000 individuals of our average-sized, 7-millimeter-long species for every 1 animal (such as a hummingbird)

that is 70 millimeters (3 inches) in length, or 10 times as large. Given their size range, insects are not as apparent to people as larger animals, but they are naturally present in much higher numbers.

The study of biodiversity is for the most part in the hands of entomologists, who are faced with the task of sampling, describing, and cataloging a fauna of incredible variety. Fortunately, the large numbers of insects, coupled



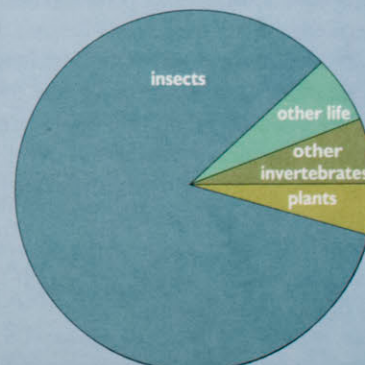
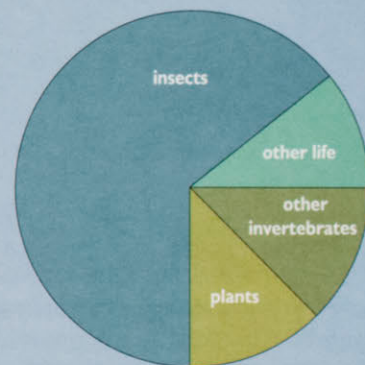
BACKSWIMMER / PETER J. BRYANT



ROBBER FLY / C. RILEY NELSON

THE SUPREMACY OF INSECTS

More than half of the 1.4 million organisms that have been described by scientists to date are insects (top). But the known insects may represent less than 10 percent of the actual number of species in existence. If there are really 5 million different kinds of insects, they account for almost 90 percent of the world's species of organisms (bottom).



MUSEUM ON THE MOVE

with their small size, make it easy to sample them with mass-collecting devices. One such piece of equipment, the tentlike Malaise trap, left out for a certain number of hours will capture a nice cross-section of the local insect population; by using these traps in Costa Rica, I have been able to estimate the number of ant-decapitating flies of the genus *Apocephalus* present at a certain tropical rain forest preserve (see *TERRA*, March/April 1995). The predicted total of 150 to 200 species is more than twice the number of species in this genus now known worldwide. Because other groups of insects are equally rich in species, it will be many decades before we can say with any certainty just how many different types of insects there are.

If most of earth's biodiversity is invested in animals that are small, obscure, and six-legged, why should people be concerned about the subject? Perhaps the greatest practical value of the world's present inhabitant species is that they have been selected through evolution over millions of years to overcome the problems posed by the planet's environments. Organisms like insects can be thought of as biological problem-solving machines. With their range of secretions, venoms, antifungal agents, detoxifying mechanisms, and countless other adaptations to their surroundings, the collective biodiversity represented by today's species has probably already solved every biochemical problem that we as humans will ever face.

Pharmaceutical and other biochemical researchers are prospecting now to uncover and understand the coping and survival strategies of insects and other less diverse groups of organisms. But because of the rapid pace of humankind's destruction of the natural world, the time for assessing the richness of life is running out.

DR. BRIAN V. BROWN

Assistant Curator, Entomology

■ CATS EXHIBITION FUNDED BY NSF

The National Science Foundation has awarded a \$788,000 grant to the Natural History Museum for the costs of developing a traveling exhibition on cats, which will open at the Exposition Park museum in March 1997.

Cats! Wild to Mild, dramatizes the variety of roles of cats, from top predator in many ecosystems to America's most popular pet. Because there are both wild and domestic present-day members of the family Felidae, cats offer a bridge from the familiar to the exotic and an opportunity for the museum visitor to explore a broad range of animal and animal-human issues. The new exhibit's interactive ways



of presenting information to children and families satisfy the goals of NSF's Informal Science Education Program—to provide stimulating learning environments outside of the formal classroom setting where people of all ages and backgrounds can increase their appreciation and understanding of science.

The award is the largest NSF grant ever received by the Natural History Museum for a specific exhibition and educational program. The museum estimates that it will reach an audience of approximately 3 million people in the exhibition's 5-year tour of fifteen North American venues. "We hope to bring more than 40,000 school-age children from southern California to this exhibit," said the museum's Chief of Education Joan C. Grasty. "Children love animals. We will use the popularity of the cat to teach basic science and biology principles."

■ L.A. KIDS AT MUSEUM

The official opening of the Natural History Museum's newest fossil exhibit, the Tamkin Dueling Dinosaurs in the Exposition Park museum foyer, was held on October 26, in conjunction with a major celebration, "L.A. Kids Day at the Natural History Museum," organized and presented by the television station UPN 13. The day-long party included theatrical performances; discussions of careers in television with UPN news anchors; and African drumming and West African-inspired stilt dancing by artists of the Universal Big Top Circus.

For the more than 5,500 people attending, admission to the museum was free, courtesy of Hitachi and the City of Los Angeles Department of Public Works. Other sponsors of the event included Universal Big Top Circus and radio station KACE 103.9 FM. Seventy other companies and organizations provided sponsorship or donated prizes, gifts, or refreshments. Museum President and Director Dr. James L. Powell spoke during the opening ceremonies, and Marilyn F. Solomon, of the museum's Board of Trustees, and Steve Tamkin and William Litvak, representing the Tamkin Foundation and Dr. S. Jerome and Mrs. Judith D. Tamkin (sponsors of the Dueling Dinosaurs' installation), were also on hand to welcome guests.

On November 10, Channel 13 devoted one of the programs in its Emmy-winning series, *L.A. Kids*, to the October 26 event. The half-hour special, which included interviews with several museum staff members, focussed on giving 9- to 12-year olds reasons to enjoy a visit to the museum.

■ NEW TELEPHONE NUMBERS FOR EXPOSITION PARK MUSEUM

Early in March 1997, a new digital telephone system as well as wiring for a computer network will be installed at the Museum of Natural History in Exposition Park. Although the museum's main number for recorded information will remain the same (213/744-DINO or 213/744-3466), the telephone numbers for many offices in the building are changing. The back cover of the March/April 1997 issue of *TERRA* will carry a list of the new num-

bers for offices most frequently called by members.

The new telephone network has an on-site Voice Mail system with Automated Attendant, which will allow people telephoning in to reroute their own calls if necessary. As the new telephones are put in, wiring needed to connect the Exposition Park computers to a museum-wide network will also be installed. With the later addition of needed hardware and software, staff members will then be able to send messages and data files from one computer to another electronically. Special electronic exhibitions and information stations for members and visitors are also planned for the near future.

■ SHOP AND MEMBERSHIP OFFICE RELOCATED

To increase the appeal of the shops at the Museum of Natural History in Exposition Park, the first floor retail operations have been consolidated into two stores. The Dino Shop at the south entrance (213/744-3489) continues to emphasize children's merchandise, but books and a variety of other dinosaur-related items for adults have been added to the offerings there. The Ethnic Arts Shop at the north entrance has been renamed the Explore

The new Explore Store at the Museum of Natural History in Exposition Park.



EXHIBITIONS

■ **SEMA Speed Shop**, through 1997, Second Floor Galleries, Petersen Automotive Museum. This diorama celebrates backyard mechanics' desires to improve the speed and performance of their automobiles. Visitors touring the exhibition's replicas of 1950s and 1990s "speed shops" can see the changes in products, technology, and safety features that accompanied the growth of the aftermarket automobile products industry. The exhibition is sponsored in part by SEMA (the Specialty Equipment Market Association).

■ **Museum Treasures**, through 1997, Director's Gallery, Museum of Natural History, Exposition Park. A special exhibition of specimens and objects from the Natural History Museum's collections, each personally chosen by one of the museum's curators for its beauty, rarity, public interest, or scientific, historical, or artistic significance. The display, which will change throughout the year, now includes Shirley Temple's tap shoes, a Gold Rush diary, and the 30,000-year-old skull of a Pygmy Mammoth.

■ **Sharks: Fact and Fantasy**, through January 5, 1997, Dart Gallery, Museum of Natural History, Exposition Park. The Natural History Museum's award-winning exhibition on these much maligned inhab-

itants of the seas, the largest and most comprehensive ever mounted, returns to Los Angeles from its extensive tour of other museums, including a most recent showing in Japan. Life-size models and interactive displays illustrate shark senses, feeding habits, and evolution as well as the relationships between sharks and humans expressed in myth and folklore.

■ **State of the Art, 1905-1910**, extended through May 1997, Second Floor Galleries, Petersen Automotive Museum. This exhibition of more than twenty automobiles, including a 1905 Oldsmobile Model "B" Curved Dash Runabout and a 1906 Pungs-Finch Limited, offers a glimpse into the period of transition from "horseless carriage" to modern motorcar.

■ **American Muscle Cars: The Beauty of the Beast**, late January through September 1997, Second Floor Grand Salon, Petersen Automotive Museum. Muscle cars—street vehicles with high power-to-weight ratios and names like GTO, AMX, and Cobra—were usually mid-size automobiles equipped with the engines of full-size models. This exhibit of sixteen of the high-performance autos, all built between 1955 and 1971, includes examples from every U.S. manufacturer.

Store (213/744-3336) and now carries gifts, books, jewelry, and electronic products for both children and adults.

As a result of the shops' consolidation, the Natural History Museum's main Membership Office will be moving to the north entrance, a highly accessible part of the building. In addition to serving as headquarters for Membership staff, the new space will include a reception area for visiting members.

■ A SAFE REFUGE FOR CLASSIC CARS

The Petersen Automotive Museum has a new program allowing owners of classic and collector cars to store their valued

(continued on page 14)

PROGRAMS FOR MEMBERS AND VISITORS

LECTURES & SPECIAL EVENTS

A lecture and booksigning

■ DEMONIC MALES

Apes and the Origins of Human Violence

Sunday, February 9, 2 p.m., Jean Delacour Auditorium, Museum of Natural History, Exposition Park

Dr. Richard Wrangham, Professor of Anthropology at Harvard University and renowned primatologist, gives us a fascinating look inside the the origins of human violence. Dr. Wrangham, who began his study of apes under the direction of Jane Goodall, reveals the spectacular propensity for homicide, rape, and battery that the great apes share with their human cousins. His research suggests that for the last 5 million years or more it is natural selection on male temperaments that has made human beings the relatively violent species we see today. Dr. Wrangham's work, most recently featured in *Time*, is the subject of his new book, *Demonic Males: Apes and the Origins of Human Violence* (Houghton-Mifflin, 1996), which will be available for purchase following the lecture. \$7 members, \$9 nonmembers, \$5 students with I.D.

A lecture and booksigning

■ GUNS, GERMS, AND STEEL

The Fates of Human Societies

Sunday, March 9, 2 p.m., Jean Delacour Auditorium, Museum of Natural History, Exposition Park

Until around 11,000 B.C., all peoples were still Stone Age hunters and gatherers, but as the domestication of indigenous plants and animals became the prevailing mode of existence, a rapid change in the rates that human societies evolved took place. How did these vast differences in societies arise, and why weren't the native Australians, Americans, or Africans the ones to colonize Europe?

Dr. Jared Diamond, Professor of Physiology at the UCLA Medical School, explores this great divide and examines the fascinating development of human civilization. Dr. Diamond reveals convinc-

ing evidence linking germs to the domestication of animals and to the Eurasian colonization of Europe and the Americas. As he outlines the rise of agricultures, technology, writing, government, and religion, Dr. Diamond dismantles pernicious racial theories, which trace societal differences to biological differences, and provides a theory of human history as intriguing as the histories of dinosaurs and glaciers. \$7 members, \$9 nonmembers, \$5 students with I.D.

A free theatrical performance

■ ¡BOCÓN!

Saturday, February 15, 1 p.m., Jean Delacour Auditorium, Museum of Natural History, Exposition Park

¡Bocón! tells the story of Miguel, a young boy who must flee his home in Central America. His journey north to the United States is filled with humor, mysticism and song. Befriended by the mythic figure, La Llorona, Miguel courageously takes on his enemies and learns to speak out in the face of great challenges.

This free performance sponsored by the Mark Taper Forum's P.L.A.Y. (Performing for Los Angeles Youth); seating is on a first-come, first-served basis, with the doors opening at 12:45 p.m.

A lecture and booksigning

■ THE COMPLEAT COCKROACH

Sunday, February 23, 2 p.m., Times Mirror Conference Room, Museum of Natural History, Exposition Park

David George Gordon, renowned author and natural historian, presents the exciting world of the cockroach—from the jungles of Equatorial Africa to the labs of the Raid Research Institution in Racine, Wisconsin. We'll explore cockroach culture, biology, and behavior, and learn how these amazing creatures sing for their supper, sleep upside down, battle each other, and handle their bizarre sex lives. Mr. Gordon's work has appeared in *National Geographic World*, *Reader's Digest*, *Zoo Life*, and *Wildlife Conservation*. A booksigning immediately follows the illustrated lecture. \$7 members, \$9 nonmembers, \$5 students with I.D.

A chamber music concert

■ BRING YOUR SWEETHEART TO HART

Saturday, February 15, 7:30 p.m., William S. Hart Museum

Join us for a romantic evening of music with the **Santa Clarita Chamber Players**. The concert will be presented in the intimate living room atmosphere of the William S. Hart Museum; refreshments will be served following the performance. Seating is limited to 50 people. \$40 couple, \$20 single members; \$50 couple, \$25 single nonmembers. Please call 805/254-4584 for reservations.

ADULT CLASSES

■ SPRING BASKETS

Saturday, February 8, 9 a.m. to 4 p.m., George C. Page Museum, Hancock Park

Master basket maker **Judy Mulford** helps us to create beautiful baskets just in time for spring. Using versatile and abundant southern California *Dracaena* leaves, we'll plait and twine a simple basket edged with dried flowers. Judy welcomes students of all skill levels, and space is limited to twelve participants. \$55 members, \$65 nonmembers.

ADULT FIELD TRIPS

A visit to historic Los Angeles

■ THE RICHNESS OF OUR ROOTS

Saturday, January 11, 10 a.m. to noon or 11 a.m. to 1 p.m.

Docents from **El Pueblo de los Angeles Historic Park** lead us back in time to explore the history of our ethnically diverse city. We'll learn about the city's early Spanish and Mexican settlements as we tour the pueblo and its underground passages, which have served in different times as wine cellars, housing for Chinese immigrant workers, and—according to police reports—gambling dens! We'll also see the Avila Adobe, the Old Plaza Firehouse and the Sepulveda House. \$15 members, \$20 nonmembers.



A stairway walk

■ THE UPS & DOWNS OF L.A.

Sunday, January 19, 9 a.m. to noon

Larry Gordon, co-author of *Stairway Walks in Los Angeles* (Wilderness Press, 1990), leads our trek through the beautiful Beachwood Canyon neighborhood in the shadows of the Hollywood sign. Along the way, Larry will provide us with bits of urban history and Hollywood folklore. Some stairways are steep and long, so please wear comfortable walking shoes. \$20 members, \$25 nonmembers.

■ PELAGIC BIRDS AND MAMMALS

Sunday, February 23, 7 a.m. to 4 p.m.

The San Pedro Channel abounds with marine wildlife. With museum naturalists **Dr. John Heyning** and **Kimball Garrett**, we will set out for an all-day pelagic expedition aboard the Research Vessel *Vantuna* to view the seabirds and marine mammals of this biologically rich area. Journeying near and beyond Santa Catalina Island, we'll search for seabirds such as shearwaters, petrels, and jaegers that ordinarily are found far offshore. We'll observe gray whales making their way along the Pacific coast from the calving lagoons of Baja California to the summer feeding grounds of the Bering and Chukchi Seas. We may also encounter minke whales, harbor seals, and California sea lions. Cavorting herds of dolphin may escort us as our naturalists identify and discuss the natural history of the birds and mammals that we see. Please bring a bag lunch. \$55 members, \$65 nonmembers.

■ MINIATURE LOOPED FETISH POUCHES

Saturday, March 8, 9 a.m. to 4 p.m., George C. Page Museum, Hancock Park

Learn one of the most ancient basketry techniques while creating a miniature fetish pouch. We'll embellish our finished creations with beads, feathers, or other personal objects. Instructor **Judy Mulford**, basketry artist and educator, invites students of all skill levels, and space will be limited to twelve participants. \$50 members, \$60 nonmembers. Photographs by Dick Meier



An historical walking tour

■ EXPLORING LITTLE TOKYO

Saturday, February 22, 9:30 a.m. to 11:30 a.m.

Relish the vivid contrasts between old and new as we tour the cultural and historic heart of Los Angeles's Japanese Community, Little Tokyo. We'll learn about the history of the area and the background of the community with docents from the **Los Angeles Conservancy**. On our morning walk, we will visit the Japanese American Cultural Community Center, Noguchi Plaza, and the First Street North Historic District; we'll also view the interior of the Higashi Hongwanji Buddhist Temple (1976) and stop at St. Vibiana's Cathedral (1876) to learn about the recent controversial decisions about this building's future. Wear comfortable walking shoes. \$20 members, \$25 nonmembers.

CHILDREN'S & FAMILY PROGRAMS

To ensure the best possible experience for your child, please abide by the age requirements stipulated in our program descriptions.

■ THE DIRT ON DINOSAURS

Saturday, January 25, 10 a.m. to 11:30 a.m., Education Division Classroom, Museum of Natural History, Exposition Park. Children ages 4 to 7

Touch a real dinosaur bone, examine a cast of a dinosaur egg, and see how you measure up to an *Apatosaurus* thigh bone. Find out how scientists learn about dinosaurs and other ancient reptiles with paleontologist **Mark Roeder**. \$20 members, \$25 nonmembers.

■ REPTILE SCALES AND TAILS

Saturday, January 25, noon to 2 p.m., Education Division Classroom, Museum of Natural History, Exposition Park. Children ages 7 to 12

Explore the exciting world of reptiles with educator **Mark Roeder**. Discover how these modern-day relatives of dinosaurs adapt to their different habitats, and uncover the secrets of scales. Learn about reptile anatomy by examining preserved specimens and skeletons, and get up close and personal with some live, nonvenomous snakes and lizards! \$20 members, \$25 nonmembers.

■ CRYSTALS, GEMS, AND MINERALS

Saturday, January 25, 2:30 p.m. to 4:30 p.m., Education Division Classroom, Museum of Natural History, Exposition Park. Children ages 7 to 12

Calling all rock-hounds! Let paleontologist and educator **Mark Roeder** introduce you to the dazzling world of rocks and minerals. Examine crystals, discover how gemstones are formed, and experiment with various samples. You'll even get your own mineral testing kit to take home. \$25 members, \$30 nonmembers.

■ CHILDREN'S CONCERTS IN HISTORIC PLACES

Saturday, February 8, 1:30 p.m. and 3 p.m., second floor North American Mammal Hall, Museum of Natural History, Exposition Park. Children ages 4 and older, accompanied by an adult

The Da Camera Society of Mount St.

PROGRAMS FOR MEMBERS AND VISITORS CONTINUED

Mary's College presents Children's Concerts in Historic Sites at the Natural History Museum. Walrus, grizzly bear, antelope, and beaver—see familiar and exotic animals in dramatic dioramas while hearing them depicted in music and words. \$43 per family (includes 2 adults and 2 children) or single tickets \$10 children, \$18 adult. Please call 310/440-1351 for tickets.

■ THE WOLF

Real or Imagined?

Saturday, March 8, 10 to 11:30 a.m., Jean Delacour Auditorium, Museum of Natural History, Exposition Park. Children ages 6 and older, accompanied by an adult

Come and meet Koani, a 100-pound gray wolf from Montana, and Indy, her dog companion. Wildlife biologist **Patricia Tucker** will give your family a glimpse into the secret lives of North America's most fascinating predators, and documentary filmmaker **Bruce Weide** shares stories from myth and folklore that reveal the wolf that stalks human imagination. \$5 members, \$7 nonmembers.



BRUCE WEIDE

■ THE WORLD WITHIN THE RAINFOREST

Saturday, January 18, 1:30 p.m.

Museum educator **Paula Esparza** makes the rain forest come alive. Participate in the telling of a rain forest tale, and make a fun frog habitat to take home.

■ CAT NAP

Overnight Saturday, March 22, to Sunday, March 23, 7 p.m. to 8 a.m., Museum of Natural History, Exposition Park. Children ages 5 and older with accompanying adult

Spend the night with lions and jaguars in the museum's African Mammal Hall and discover the differences (and amazing similarities) between these wild cats and our domestic feline friends. We'll join in hands-on activities, create cat-crafts and explore the newly premiered exhibit *Cats! Wild to Mild*, all with our favorite museum instructors! An evening snack and a light breakfast are included. Participants bring their own sleeping bag and air mattress. \$40 members, \$50 nonmembers.

A family camping trip

■ FOSSIL HUNTING AT RED ROCK CANYON

Friday, April 11, through Sunday, April 13. Open to families with children of all ages

Discover the world of Miocene fossils on this family camping trip to beautiful Red Rock Canyon. We'll search for fossils with museum curator **Dr. Dave Whistler**, the only paleontologist with a collecting permit for Red Rock Canyon. We'll also take nature hikes, learn about the unique geology of the region, and roast marshmallows around the evening campfire. Best of all,

■ MY BATTY VALENTINE!

Saturday, February 15, 1:30 p.m.

Bats need love, too! Museum educator **Gretchen Markle**, recently returned from a bat research trip, shares bat lore and helps kids create a craft item to take home.

FAMILY FUNDAYS!

These hands-on family programs are **free** with museum admission for children ages 4 and older. They are held in the Discovery Center of the Museum of Natural History in Exposition Park. No reservations are necessary, but space in some programs is limited, so please arrive early.

parents can relax while **Helen Whistler** prepares all three meals on Saturday as well as breakfast on Sunday. You provide transportation and camping gear, we'll take care of the rest! Arrive anytime after noon on Friday. Members: \$65 child, \$95 adult; nonmembers: \$75 child, \$105 adult.

ANNOUNCEMENTS

■ 7th ANNUAL NESBURN WRITING COMPETITION

Students in grades 4 through 8 are invited to participate in a writing competition on the subject of cats. Held in conjunction with the museum's exhibit, *Cats! Wild to Mild*, this contest will give the entrants an opportunity to learn more about these intriguing animals. The Dr. Henry and Lilian Nesburn contest rewards writing excellence in three categories—fiction, factual reporting, and poetry. Entries are restricted to students in public and private schools within Los Angeles County and must be received by April 1, 1997. A prize of \$50 will be awarded to the winner in each competition category at each grade level.

Awards will be presented on May 17 during a special day of family activities at the Museum of Natural History. Please contact the Education Division at 213/744-3534 to obtain more information.

The Members' Loan Service thematic teaching kits include a variety of touchable artifacts, children's books, posters, video and audio tapes, as well as an educator's notebook filled with background information and ideas for classroom activities, all conveniently packed in a traveling trunk.

Attention, parents, teachers, artists, and naturalists

■ HAVE YOU USED YOUR MEMBERS' LOAN SERVICE?

If you haven't explored the vast array of science specimens, historical objects and models, cultural artifacts, and thematic teaching kits available for loan through the Members' Loan Service, you're missing out on one of the most unusual benefits of museum membership!

All loan materials are carefully selected for their educational value and relevance to the elementary curriculum and are available for loan for classroom enhancement, school projects, or home study.

Borrow a Duckbill Platypus or a Gold Miners' Scale for a child's special report, or rent a teaching kit for an in-depth study of whales, sharks, the folk art of Latin America, or the culture and life of the Chumash and Gabrielino Native Americans.

For a \$5 fee, three individual items may be borrowed for a 2-week period. Teaching kits rent for \$10 for a 2-week period. For more information, visit the Members' Loan Service counter, located in the Exposition Park museum's Discovery Center, or call the Loan Programs Coordinator at 213/744-3345. **Program hours: Thursdays, 2:00 to 4:30 p.m., and Saturdays, 10 a.m. to 2 p.m.**

■ MUSEUM SEEKS VOLUNTEERS

We need your help! The Natural History Museum is now recruiting volunteers to lead school tours, work at information and membership desks, and conduct outreach programs. You don't need a scientific or history background, only a sense of commitment and enthusiasm. We will train you to be a docent or service council volunteer. Please call the following numbers for further information.

WILLIAM S. HART MUSEUM, Newhall: call 805/254-4584.

GEORGE C. PAGE MUSEUM OF LA BREA DISCOVERIES: call 213/857-6305.

PETERSEN AUTOMOTIVE MUSEUM: call 213/964-6347.

MUSEUM OF NATURAL HISTORY, Exposition Park: call 213/744-3341.



PUBLIC PROGRAMS RESERVATION FORM

■ **By telephone:** Use your MasterCard or VISA. Call the Education Division at 213/744-3534, weekdays, 8 a.m. to 4 p.m. Credit cards are accepted only with a minimum charge of \$20.

■ **By mail:** Complete the form below, fill in the charge information or enclose a check payable to Museum Foundation, and return your order form and payment with a self-addressed, stamped envelope. The form may be duplicated. Mail to: **Education Division, Natural History Museum, 900 Exposition Boulevard, Los Angeles, CA 90007**

■ **Important: Reservation, Waiting List and Refund Policies.** Preregistration is required for all classes, workshops, and field trips and is recommended for all other Education Division programs. Tickets to auditorium events may be purchased at the door; seating is not reserved. Reservations are not necessary for Family Fundays.

Applicants for filled programs will be placed on a waiting list and contacted if vacancies or rescheduling occur. If you have paid for a filled program, your payment will be refunded in 4-6 weeks.

Cancellations must be made one week prior to the first day of the event for the registrant to be eligible for a refund. Only if we are able to fill your space will the fee be refunded.

Dates and times of programs are subject to change, and class sizes are limited. Please call 213/744-3534 weekdays between 8 a.m. and 4 p.m. to verify program dates, times, and availability.

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MUSEUM ON THE MOVE CONTINUED

(continued from page 9)

automobiles in the same environment occupied by the museum's own automotive treasures. The Petersen's underground vault offers parking in an area of restricted access and 24-hour security surveillance. Approximately 100 spaces are available on a first-come, first-served basis for a monthly storage rate of \$100 per vehicle. For further information, please call Danton Luu at 213/964-6352.

■ JOAN GRASTY RETIRES

The Natural History Museum's Chief of Education, Joan C. Grasty, was honored on November 15, 1996, as she retired after 31 years with the museum. More than 100 colleagues and guests gathered to wish her well at the afternoon event held in the museum's first floor North American Mammal Hall. Mrs. Muriel Gluck and Camilla Kocol of the Gluck Foundation,

sponsors of the museum's Earthmobile and Seamobile, were among those who watched as Yvonne Brathwaite-Burke, Los Angeles County Supervisor for the Second District, presented Grasty with a plaque recognizing her numerous accomplishments for the museum and its community.

Grasty began her career with the museum in September 1965 while studying for her graduate degree in Anthropology and Archaeology at UCLA. Her initial position as part-time Student Professional

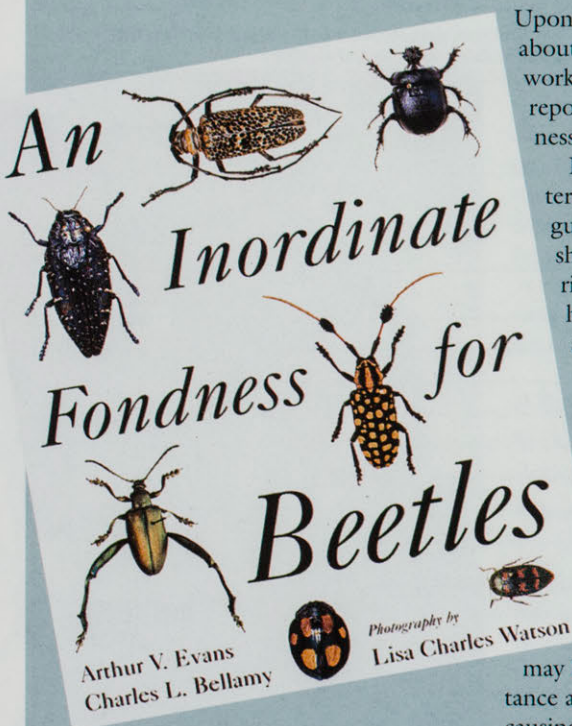


DICK MEIER

Worker Tour Guide soon led to her full-time employment in the museum's Education Division.

One of her early positions was as School Tours Coordinator, and in this role, Grasty became acutely aware that many children and adults in Los Angeles would never have the opportunity to visit the museum. When she was promoted to Volunteer Coordinator, she began to channel the energies and dedication of the museum's volunteers into the development and implementation of a number of outreach programs, including the Moveable Museum (1982), the Special Education Program (1984), and the Senior Outreach Program (1987). Their success led education staff to create the Traveling Insect Zoo (1990), the Earthmobile (1991), and the Seamobile (1995). Today approximately 100,000 people benefit annually from the traveling classrooms and inter-

JUST RELEASED !



Upon being asked what could be inferred about the Creator from a study of His works, the British scientist J.B.S. Haldane reportedly replied, "An inordinate fondness for beetles."

Haldane may have never actually uttered these words, but no one can argue with the truth that they contain. If sheer numbers of species were a criterion for success, then beetles would have to be among the most successful animals on Earth. By the most conservative estimate, there are approximately 350,000 species. No other group of animals exhibits such a range of size, color, and form. Their peculiar anatomies and activities have captured the attention of humans for thousands of years and have given rise to intriguing myths and legends. A small number of beetle species may be of considerable economic importance as a result of their feeding activities, causing millions of dollars damage annually. *An Inordinate Fondness for Beetles*, written by the Natural History Museum's In-

sect Zoo Director Dr. Art Evans and Dr. Charles Bellamy, Senior Curator of Coleoptera at the Transvaal Museum in Pretoria, South Africa, provides an engaging look at these magnificent, yet poorly understood creatures and highlights the absolutely essential role that beetles play in the dynamics of nearly every terrestrial ecosystem on Earth. An authoritative reference filled with color photographs, *An Inordinate Fondness for Beetles* contains specific information about the biology, anatomy, classification, diversity, and conservation of beetles around the world. The book, which was published by Henry Holt and Company, Inc. (ISBN 0-8050-3751-9), is widely available and is listed at \$40. Autographed copies may be purchased in the Exposition Park and Page museums' stores.

On Sunday, April 6, Dr. Evans will share his fascination with beetles in a slide-illustrated presentation and booksigning in the Times Mirror Room of the Exposition Park museum. For further information or to reserve seats at this special event, please call 213/744-3534.

active sessions with museum materials that these programs afford.

In her past 12 years as Chief of Education, Grasty has overseen all educational programming at the Exposition Park museum, the Page Museum of La Brea Discoveries, the William S. Hart Museum, the Petersen Automotive Museum, and the Museum of Natural History in Burbank. She has also designed two discovery centers, installed the Education Division in new offices and classrooms in the Exposition Park building, and built the division's staff from 7 people in 1984 to a current total of 23 full-time and 19 part-time educators. She has raised over \$5 million in grant support for the museum's education mission.

Joan's tireless commitment and innovative programming have brought award-winning recognition to the museum, and her involvement on the boards of the California Association of Museums, the Education Consortium of Central Los Angeles, the Museum Educators of Southern California, and the Docent League of Southern California has earned her the respect of the museum community at large. She has the sincere appreciation and best wishes of her colleagues at the Natural History Museum as she leaves her position here.

■ CRUSTACEA ON THE WEB

The first Internet site devoted to biodiversity and systematic information on crustaceans is now available on the World Wide Web. The site, designed and developed by Dr. Joel W. Martin, Curator of Crustacea, and James Angus, Web Site Manager, offers a unique opportunity for researchers and students to learn about crustaceans as well as to add their own observations on these marine organisms at several different levels or pages.

The new site, called the Crustacean Biodiversity Survey, includes the first comprehensive glossary of crustacean morphology, the first alphabetical list of the more than 700 families of living Crustacea, bulletin boards that allow users to add their own news and information, and a searchable database. The site can be reached at either <http://www.lam.mus.ca.us/cbs/> or

<http://www.nhm.org/cbs/>. Input and suggestions from museum members and other TERRA readers visiting the site are most welcome.

MEMBERSHIP NEWS

■ SAVE THE DATE

One of the Natural History Museum's most popular events for members, the annual Open House, will be held on April 18, 1997, at the Museum of Natural History in Exposition Park. Please mark your calendars and watch for more details in the March/April 1997 issue of TERRA.

■ A HALLOWEEN HAUNT

On November 1 more than 200 Patron members and their families attended a Halloween Haunt at the Exposition Park museum. Guests wandered through the museum's Haunted Fossil Hall and cavorted with the creepy, crawly residents of the Insect Zoo. Visiting entertainers—Purple, the Happy Clown, and Bruce, the Magic Wizard—entertained the younger guests. Children also enjoyed paper folding with Leighton Mortenson and a face painting workshop conducted by museum volunteer Sara Frank. Museum docents were on hand with Education a' la Cart, which features touchable museum specimens and historical artifacts. Michael Fritzen, Outreach Instructor, added to the eerie atmosphere with hair-raising tales of ghosts and goblins.

Prizes were awarded to attendees who wore the most elaborate costumes. The museum is grateful to Gelson's Markets, Smart and Final, and Trader Joe's for their generous in-kind donations.

■ MATCHING GIFTS

Does your employer have a Matching Gift Program? Many southern California companies do, and these are a great way for you to easily double your support of the Natural History Museum. Ask your Personnel Department for information, or call the Membership Office at 213/744-3426.

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As of November 30, 1996

The Natural History Museum exists to advance knowledge and to enable people of all ages, backgrounds, and interests to understand and appreciate their natural and cultural heritage. The museum assembles, conserves, interprets, and holds in trust collections of irreplaceable objects from nature and human history. These collections reveal the history of the Earth and the evolution and diversity of life and culture. They sustain programs of research, exhibits, education, and publication.

The **Museum of Natural History**, Exposition Park, is located at 900 Exposition Boulevard, Los Angeles 90007. The **George C. Page Museum of La Brea Discoveries** is located at 5801 Wilshire Boulevard, Los Angeles 90036. The **Petersen Automotive Museum** is located at 6060 Wilshire Boulevard, at Fairfax Avenue, Los Angeles 90036.

For recorded information on museum hours, admission fees for the general public, and days when no admission is charged, please call:

- Exposition Park Museum 213/744-DINO
- Page Museum 213/936-2230
- Petersen Museum 213/930-CARS

Admission to these museums is always free to members.

The **William S. Hart Museum** is located at 24151 San Fernando Road, Hart Park, Newhall 91321. Admission is free. For information on museum hours, please call:

- Hart Museum 805/254-4584

The Natural History Museum can be reached on the World Wide Web at <http://www.lam.mus.ca.us/lacmnh>

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Natural History Museum of Los Angeles County

Exposition Park, Los Angeles, California 90007

MUSEUM TRAVEL PROGRAM

COPPER CANYON

March 29 to April 5, 1997

Take a spectacular trip aboard the first-class Chihuahua al Pacifico railroad as it winds past waterfalls, saw-toothed ridges, and deeply hewn gorges in Mexico's magnificent Copper Canyon. At Divisidero, on the rim of the canyon, Tarahumara Indians will demonstrate their culture, sports, and phenomenal running ability. You'll also visit Chihuahua, the home of Pancho Villa and the Mexican Revolution, and take a cruise on Topolobampo Bay.

- \$2,390 including airfare.

PERU

May 3 to 17, 1997

Dr. Karen Wise, Assistant Curator of Anthropology at the Natural History Museum, will lead this in-depth look at Peru, from colonial Lima to the soaring Andes, exploring both famous and little-known archaeological sites ranging from 500 to nearly 5,000 years old. You'll visit the North Coast, center of pre-Inca civilization, including the Moche and Chimú cultures. Highlights will be Sipán, El Brujo, Huaca del Sol, and Huaca de la Luna, as well as the enormous adobe city of Chan Chan. Next, you'll fly to Cuzco, taking time to explore its ancient and colonial past. A trip highlight will be an overnight stay at fascinating Machu Picchu.

- \$3,990 plus airfare.

ALASKA

June 14 to 21, 1997

Sail through southeast Alaska's beautiful Inside Passage aboard Special Expeditions' 64-passenger Sea Bird, always a favorite with members. Departing from Juneau, you'll explore in the way that only small ships equipped with zodiac landing craft can. Enroute to Sitka, you'll see the glaciers of Tracy Arm and Le Conte Bay, explore islands, bays and fjords, visit Haines and Glacier Bay National Park, and search for orcas at Point Adolphus and Althorp Rocks.

- From \$2,990 plus airfare.

MALAYSIA AND BORNEO

June 21 to July 7, 1997

Botanist Robert Gustafson will lead



YOUR VIEW TO THE WORLD

this trip to one of the world's most fascinating natural history destinations. Borneo possesses one of the oldest rain forests on earth, home to spectacular flora and fauna. In Kuching, you'll see the outstanding Sarawak Museum and Cultural Village. Bako National Park is known for its abundant bird life and primates. Gunung Mulu National Park boasts 170 species of orchids, as well as the famous Mulu Caves, containing some of the world's most spectacular stalactites. In Sandakan, you'll visit the Sepilok Orangutan Rehabilitation Center. You'll tour beautiful Kuala Lumpur before heading reluctantly home.

- \$3,275 including airfare.

TOTAL SOLAR ECLIPSE

February 22 to March 1, 1998

Plan now to join us for a week in the Caribbean, and to view the last total eclipse visible from North America this century! You'll depart from San Juan, Puerto Rico, on Norwegian Cruise Lines' Windward. Ports of call will include Aruba, Curacao, St. Croix, and St. Thomas. There will be opportunities to snorkel and to tour historic sites and botanical gardens. On board symposiums will address astronomy, astrophotography, and natural history topics.

- From \$1,099 plus airfare.

Photograph of Alaska by Karen Hovanitz

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